

WHAT IS CLAIMED IS:

1. A cathode ray tube apparatus comprising:

an electron gun assembly having an electron beam
generating section which generates a plurality of
5 electron beams and a main lens section which focuses
the electron beams generated from the electron beam
generating section on a phosphor screen; and

a deflection yoke which produces a deflection
magnetic field that deflects the electron beams emitted
10 from the electron gun assembly in a horizontal
direction and a vertical direction,

wherein the main lens section comprises a focus
electrode supplied with a focus voltage of a first
level, at least one intermediate electrode supplied
15 with a voltage of a second level equal to or higher
than the first level, and an anode supplied with an
anode voltage of a third level higher than the second
level, the focus electrode, said at least one
intermediate electrode and the anode being arranged in
20 a direction of travel of the electron beams, and

the main lens section includes an electric field
lens acting commonly on the electron beams on a focus
region side of the main lens section, which is formed
by the focus electrode and said at least one
25 intermediate electrode, and a plurality of electric
field lenses acting respectively on the electron beams
on a divergence region side of the main lens section,

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which is formed by said at least one intermediate electrode and the anode.

2. A cathode ray tube apparatus according to claim 1, wherein said focus electrode and said at least one intermediate electrode have, at their mutually opposing faces, outer peripheral electrodes defining opening portions which commonly pass the electron beams.

3. A cathode ray tube apparatus according to claim 1, wherein said at least one intermediate electrode and said anode have, at their mutually opposing faces, a plurality of electron beam passage holes which individually pass the electron beams.

4. A cathode ray tube apparatus according to claim 3, wherein each of said plurality of electron beam passage holes formed in the anode is formed in a non-circular shape with a major axis in the horizontal direction.

5. A cathode ray tube apparatus according to claim 1, wherein said plurality of electric field lenses formed on the divergence region side of the main lens section are axially asymmetric lenses.

6. A cathode ray tube apparatus according to claim 5, wherein said axially asymmetric lenses have, in a relative fashion, a horizontal focusing lens function and a vertical diverging lens function.

7. A cathode ray tube apparatus according to

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claim 1, wherein said main lens section comprises a focus electrode, a first intermediate electrode, a second intermediate electrode and an anode, which are arranged in a direction of travel of the electron beams, and

the electric field lens acting commonly on the electron beams is formed by the focus electrode and the first intermediate electrode, and said plurality of electric field lenses acting respectively on the electron beams are formed by the second intermediate electrode and the anode.

8. A cathode ray tube apparatus according to claim 1, wherein said at least one intermediate electrode is connected to a resistor disposed near the electron gun assembly and supplied with a voltage obtained by resistor-dividing the anode voltage applied to the anode.

9. A cathode ray tube apparatus according to claim 1, wherein said focus electrode has a first focus electrode supplied with a reference voltage, and a second focus electrode supplied with a dynamic focus voltage obtained by superimposing upon the reference voltage an AC component varying in synchronism with the deflection magnetic field.

10. A cathode ray tube apparatus according to claim 9, wherein said second focus electrode and the intermediate electrode disposed adjacent to the second

focus electrode have, at their mutually opposing faces, outer peripheral electrodes defining opening portions which commonly pass the electron beams.

11. A cathode ray tube apparatus comprising:

5 an electron gun assembly having an electron beam generating section which generates a plurality of electron beams and a main lens section which focuses the electron beams generated from the electron beam generating section on a phosphor screen; and

10 a deflection yoke which produces a deflection magnetic field that deflects the electron beams emitted from the electron gun assembly in a horizontal direction and a vertical direction,

15 wherein the main lens section comprises a focus electrode supplied with a focus voltage of a first level, at least one intermediate electrode supplied with a voltage of a second level equal to or higher than the first level, and an anode supplied with an anode voltage of a third level higher than the second level, the focus electrode, said at least one
20 intermediate electrode and the anode being arranged in a direction of travel of the electron beams,

25 said focus electrode has, in a face thereof opposed to the intermediate electrode disposed adjacent to the focus electrode, an electron beam passage hole which commonly passes the electron beams, and

said anode has, in a face thereof opposed to the

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intermediate electrode disposed adjacent to the anode, a plurality of electron beam passage holes which individually pass the electron beams.

12. A cathode ray tube apparatus according to
5 claim 11, wherein said intermediate electrode opposed to the focus electrode has, in a face thereof opposed to the focus electrode, an electron beam passage hole which commonly passes the electron beams, and

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10 said intermediate electrode opposed to the anode has, in a face thereof opposed to the anode, a plurality of electron beam passage holes which individually pass the electron beams.

13. A cathode ray tube apparatus according to
15 claim 11, wherein the focus voltage applied to the focus electrode is obtained by superimposing upon a reference voltage an AC component varying in synchronism with the deflection magnetic field.

14. A cathode ray tube apparatus according to
20 claim 11, wherein the focus electrode includes an end face located on the side of the intermediate electrode disposed adjacent to the focus electrode and having a plurality of electron beam passage holes which individually pass the electron beams, and an outer peripheral electrode extending from said end face
25 toward the intermediate electrode disposed adjacent to the focus electrode and forming an electron beam passage hole which commonly passes the electron beams.